



Critical Access Hospital Program: *Economic and Community Impact in Illinois*



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Critical Access Hospital Program: Economic and Community Impact in Illinois

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Acknowledgements

The Illinois Critical Access Hospital Network (ICAHN) commissioned the Center for Governmental Studies at Northern Illinois University to update recent studies of the economic impact and financial conditions of critical access hospitals (CAHs) in Illinois to better understand the contributions that these hospitals make to the economy and quality of life in rural communities. This project resulted in two reports. The current report focuses on the overall economic and community impact of critical access hospitals, as well as issues generated by survey respondents. The second discusses the future issues faced by CAHs along with responses of hospital chief executive officers (CEOs) and chief financial officers (CFOs) to anticipated trends.

This study could not have been completed without assistance from many people. Two surveys generated excellent responses by both CEOs and CFOs in 36 critical access hospitals in Illinois. The information requested was not always simple or easy to obtain, but added substantially to our understanding of hospital operations. Several CEOs also provided additional information in follow-up phone interviews.

The Medicare Rural Hospital Flexibility Grant Program provided funding for this project. Pat Schou, Executive Director of the Illinois Critical Access Hospital Network and Curt Zimmerman, ICAHN's Director of Business Services and Development, provided guidance throughout the project with insights into drafting the survey and understanding the responses. The Illinois Hospital Association staff provided access to CMS data for employment. Ruth Anne Tobias, Andre Sobol, and Mary Strub, Center for Governmental Studies, provided valuable assistance in data analysis and preparing the copy for publication.

As always, interpretations of the data belong solely to the authors and comments should be sent to Melissa Henriksen, Center for Governmental Studies, Northern Illinois University, (mhenriksen@niu.edu).

Executive Summary

The Illinois Critical Access Hospital Network (ICAHN) is a not-for-profit entity that works with member critical access hospitals to share resources, provide educational opportunities, promote operational efficiency and improve health services in their respective communities. In 2006, ICAHN partnered with the Center for Governmental Studies (CGS) at Northern Illinois University (NIU) to analyze the economic impact that critical access hospitals (CAHs) generate in Illinois. This project builds on that work.

The current project updates information on the effects of CAH designation on various aspects of CAH operations, including revenues and expenditures. This report examines four additional areas: the current economic condition of CAHs and services provided; the impact of the current recession and CAH responses; the economic impact of CAHs on their communities, regions, and statewide; and CAH adaptation to technology, organizational and personnel changes, and related trends.

A snapshot of the critical access hospitals shows:

- » the 2000 median population of counties with a CAH was 26,733, and in 2009 that number had decreased slightly to 25,738;
- » a majority (76.5%) of CAHs are in counties with populations between 10,000 and 49,999;
- » 41 of 51 (80.4%) CAHs were located in counties that decreased in population between 2000 and 2009;
- » 2009 median gross revenue of all Illinois CAHs was \$38,607,677;
- » median cash flow margins decreased for CAHs in the lowest and highest gross revenue categories and the median return on equity decreased for CAHs in all categories;
- » operating margins decreased in CAHs with less than \$24.6 million in gross revenues; and
- » median number of days of cash on hand increased in CAHs with less than \$49.9 million in gross revenues in 2009, and decreased in those with \$50 million to \$100 million in gross revenues.

Thus, while the CAH program has helped hospitals remain financially viable as described in the 2006 CGS report, there is some evidence that the recession and population declines have adversely affected hospital finances. These hospitals rely heavily on Medicare

patients and reimbursements. Although the average Medicare revenue per day increased from \$1,374 in 2006 to \$1,662 in 2009, adjustments for price increases reduce the 2009 payment to \$1,373 in 2006 dollars. Thus, the CAHs received slightly less per day.

CAHs have important impacts on their region, in terms of both community and economic health. In 2009, the Illinois CAHs, collectively:

- » had combined gross revenues (output) of \$2.1 billion;
- » employed 10,241 people; and
- » had employee compensation of approximately \$576 million.

The expenditures by CAHs generate additional jobs in their communities, resulting in:

- » an additional 7,769 jobs in other business sectors;
- » statewide, for every 10 people employed by the CAHs, an additional 7.6 jobs were created in their respective communities; and
- » an additional \$241.5 million in wages and benefits paid to employees in other business sectors.

The impact of annual operations helps explain the importance of critical access hospitals to regional economies, but it is only one measure of the total impact. Also important are the effects on communities of CAH construction, renovation and expansion projects (both small and large scale) including new facility development, remodeling or expansion, and acquisition of equipment and technology. By our estimates, between their FY¹ 07 and FY09, the 18 CAHs that provided data on construction or remodeling projects generated:

1. The term Fiscal Year is used throughout the report. Fiscal years for hospitals differ and they reported data based on the Fiscal Year in which they operate with all reporting data for 12 months.

- » hospital expenditures of \$149.9 million;
- » 218 FTE positions (self-reported);
- » short-term/temporary employment (mostly construction) for approximately 1,000 workers, with employee compensation of \$36.2 million as a direct result of projects;
- » sales or revenues of \$41.8 million for other business sectors; and
- » 370 jobs in other business sectors, with employee compensation of \$11.1 million.

CAHs face several interrelated financial issues. First, populations decreased in many rural counties due to outmigration of young families, leaving an even higher proportion of elderly residents with greater needs for medical and health services. Second, elderly residents often are less able to afford health care without supplemental revenues. Third, reimbursements may not always meet the full cost of providing services or when payments are delayed they create financial problems for CAHs. Fourth, the current recession, with continued high unemployment, increased the amount of charity care that hospitals must manage, reducing their profitability.

In addition to responding to current fiscal conditions and the challenges already mentioned, CAHs also address broader challenges including attraction/recruitment and retention of staff, development of

new service delivery approaches, and technology implementation. There are many positive examples of how CAHs have addressed budget deficits, maintained necessary services, and adapted to various challenges.

Financially healthy CAHs are essential to the future prosperity of rural Illinois because they provide services that residents consider essential to quality of life, and because they are major economic engines in their regions. The impact of CAHs as major employers is well-documented both in terms of operating expenditures and construction activities. CAHs face significant challenges as they struggle with a down economy, changing demographics, and costs associated with implementing technological changes.

While the Medicare Rural Hospital Flexibility Grant Program has enabled CAHs to remain financially sound, a comparison of financial trends in recent years suggests that these hospitals are vulnerable to changes in reimbursement programs. This is especially true for CAHs in smaller markets. Thus, it is important for policymakers to consider the impacts of health care reforms and regulatory mandates on rural areas where CAHs are the main health care delivery mechanism. Continued demographic changes are likely to increase the importance of these hospitals in the future so efforts will be needed to strengthen their finances and their abilities to continue delivering high quality health care.



Introduction

The Critical Access Hospital (CAH) program was authorized by Congress in 1997 to ensure access to quality health care for rural residents and to stabilize small rural hospitals. A CAH is a licensed acute care hospital with 25 or fewer beds and is required to maintain an average length of stay less than 96 hours; furnish 24-hour emergency services; be located in a designated rural area; and meet the program and distance requirements of the Medicare Conditions of Participation. In return, a CAH receives cost plus one percent reimbursement for services provided to Medicare patients. A CAH is required to develop network agreements with resource hospitals and can provide an unlimited selection of outpatient services. As of December 2010, there were 1,324 CAHs in the United States, with 51 located in the state of Illinois (Figure 1).

To participate in the CAH program, states are required to develop a rural health care plan that provides for the creation of one or more rural health networks; promotes regionalization of rural health services in the state; and improves the quality of, and access to, hospital and other health services for rural residents of the state.

Rural Illinois has consistently lagged behind metro areas in population growth and employment opportunities in recent years. An analysis of U.S. Census population estimates indicates that the population of urban counties in Illinois increased 5.0% between 2000 and 2009, while rural counties declined 2.8%. Total employment also declined 6.6% in Illinois' rural counties whereas employment in urban counties fell by only 0.3%. High quality health services are essential to the continued viability of rural areas because access to health care usually ranks high among services desired by businesses and residents. Thus, quality hospital care and health services are important to community development specialists working to help rural areas be economically prosperous.

Hospitals and other health care entities also are important to rural areas because they often are one of the three largest employers in rural counties (www.ihh.org). In addition, the medical and health sectors include more educated and better paid workers. A hospital may be key to attracting and retaining physicians or other medical staff as well. Thus, declines in hospitals pose a double impact—reducing the quality

of life and desirability of an area plus weakening one of its important industries.

As with many other public services, health and hospital care require a minimum threshold population size for financial viability. Long-term population declines in many areas threaten the viability of hospitals and may force residents to travel longer distances for service. Currently, 23 counties in Illinois do not have a hospital. This can limit access to services such as obstetrics, which can be a major consideration in attracting young families. Only 7 of 51 CAHs in Illinois still offer OB-GYN services. It is important that rural areas offer services that retain or attract young families. CAHs are an integral part of the health care system that meets the expectations of these residents.

Certain specialty services now are provided by independent agencies that possibly compete with, and reduce the profitability of, rural hospitals. For example, growth in free standing emergency rooms and ambulatory surgical treatment centers (ASTCs) that provide selected services can draw business from hospitals that provide a broader range of essential services, some of which may not be profitable on their own. Changes in federal or state reimbursement rates and requirements for regionalization, while productive on some fronts, may affect the long-term profitability of full-service, small rural hospitals.

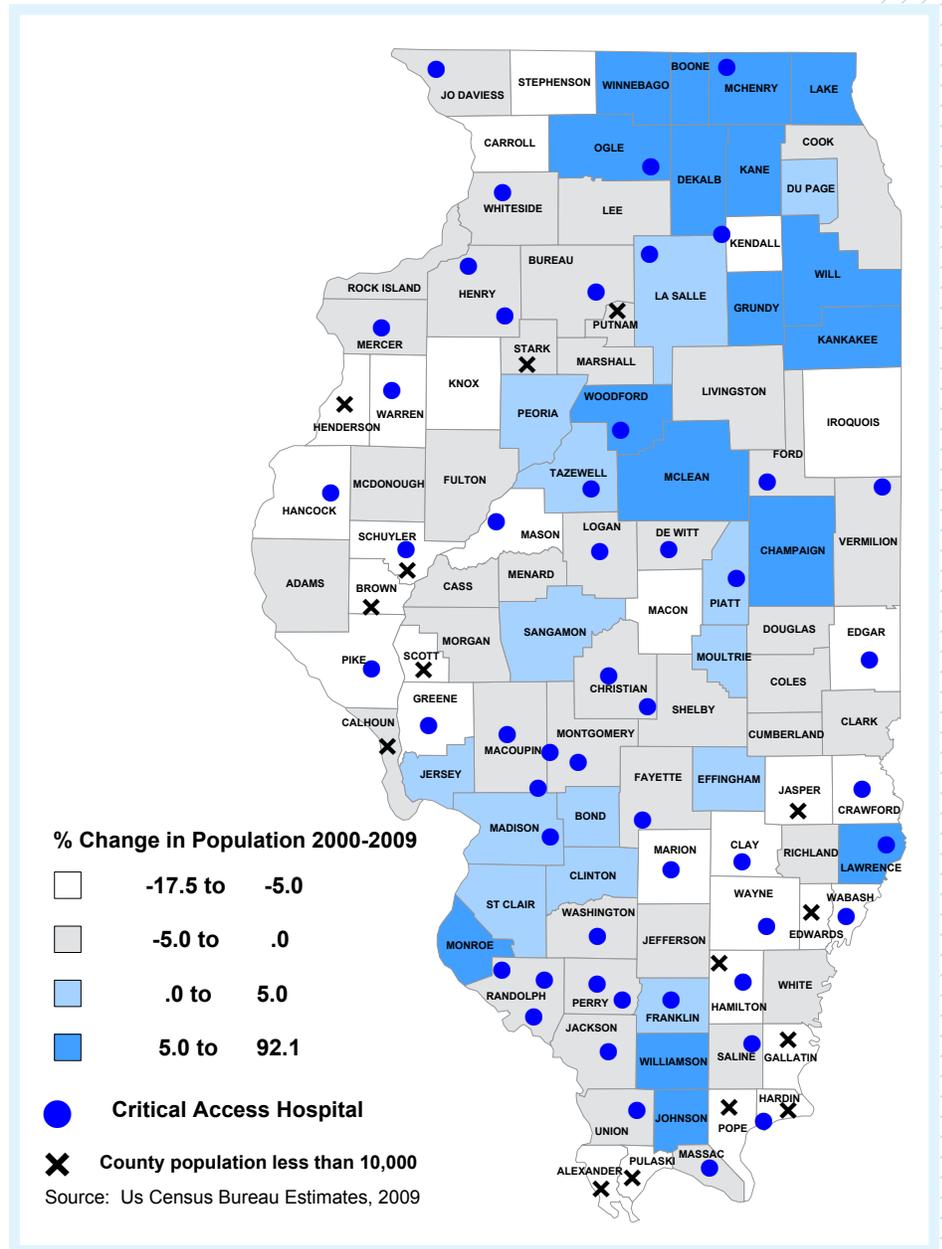
High unemployment in recent years has increased the number of charity cases and negatively affected hospitals' finances. Because the CAH program has

increased the funding for rural hospitals, it has helped maintain their financial viability. Without these hospitals, many rural areas would not have a full range of health care. Discussions later in this report show that the financial viability of the CAHs improved because of the CAH program, supporting the continuation of high quality health care in rural areas.

Fiscal difficulties experienced by Illinois governments during the past decade have caused significant delays in state payments for services. This caused some health care agencies and private businesses to close. When reimbursements do not fully cover the cost of providing services, hospitals and other providers must find alternative revenue sources and/or new management approaches. Hospitals and health care agencies increasingly share specialized staff and/or facilities as well as use technology more effectively to reduce costs. These trends are likely to continue and even increase.

This report examines the current financial conditions of CAHs in Illinois and discusses approaches these hospitals use to respond to the current challenges. It also estimates their economic impact on rural communities and the state to help readers understand the importance of CAHs to the continued prosperity of rural Illinois. Rural Illinois faces stiff competition when recruiting new businesses and must offer high quality employees and a good quality of life. Hospitals are an important component of quality of life and thus contribute to business location attractiveness and economic development in a region.

Figure 1: Illinois Critical Access Hospitals and Population Trends



PURPOSES AND ORGANIZATION OF REPORT

The current project updates an earlier CGS study that reported the effects of Medicare certification as a CAH on operating revenue, expenses, employment, patient loads, payer mix, capital expenditures, services, and relationships of CAHs with other regional health care providers. The project also analyzes the economic and community impact of CAHs' annual operations and construction, renovations, and expansions. Finally, the report examines issues affecting the viability of CAHs that were identified by CEOs and CFOs of Illinois CAHs who responded to a 2010 CGS survey. Four primary topics are examined:

- » the current condition of CAHs and services provided;
- » the impact of the current recession and responses by CAHs;
- » the economic impact of CAHs on their communities served and the state as a whole; and
- » how CAHs adjust to expanded use of technology, organizational changes, personnel changes, and related trends.

The analyses are based on several data sources. First, 2009 information from the Flex Monitoring Team (flexmonitoring.org) is included for all CAHs in Illinois and provided much of the data for analyzing financial indicators.

Second, the economic impact of all CAHs was determined by using the Minnesota IMPLAN program, a generally accepted tool used to estimate the movement of funds within a region. The program also was used with the operating cost and construction data reported in the 2010 hospital survey to calculate the economic impacts that new construction, expansion and renovation of CAH facilities have on communities.

Third, in 2010, CEOs, and in some cases CFOs, in each of the 51 CAHs were asked for information about operations in two separate, but related, surveys. An electronic questionnaire covering management approaches, finance issues, service delivery methods, and other concerns was sent to the CAHs in July 2010. In a separate mail questionnaire, CAH staff provided information on personnel expenditures, construction costs, and operating expenditures.

Thirty-six (70.6%) CAHs responded to at least one of the surveys and in most cases both. Thirty-one CAHs (60.8%) responded to the electronic survey (Appendix A) and 28 (54.9%) provided information on management and operating expenditures in the mail survey (Appendix B). The respondents are located throughout Illinois, which makes the results representative of the issues faced by small Illinois hospitals. Summaries of the information are provided and several successful hospital practices are described as innovative responses to adverse trends or new opportunities. Special attention is paid to hospitals that adjusted service delivery approaches to meet changing local demands or situations.

SNAPSHOT OF CRITICAL ACCESS HOSPITALS AND SURVEY RESPONDENTS

Although every critical access hospital is unique in services delivered, location, number of employees, and other characteristics, the survey responses provide a profile of CAHs in Illinois, which represent nearly 25% of all hospitals in the state. This information provides a framework for better understanding the challenges and opportunities facing these hospitals as a group. Many of the issues facing the hospitals are discussed in more detail later in the report.

In 2000, the median population of counties with a CAH was 26,733, but by 2009 it had decreased to 25,738 (Table 1). A list of CAH county populations is provided in Appendix C. In 2009, the county populations ranged from 320,961 residents (McHenry) to 4,358 (Hardin). Only three CAH hospitals are in counties with fewer than 10,000 residents, with a majority (76.5%) located in counties with populations between 10,000 and 49,999. Forty-one CAHs (80.4%) are in counties that lost population from 2000 to 2009.

The composition of residents in the counties also affects the clientele of the hospitals. A population decrease, combined with an increase in elderly population (65 and older), definitely affects patient demand, coverage by Medicare, reimbursement issues, and services needed. The effects of these changes are discussed later.

Table 1: Population Snapshot of Critical Access Hospital Locations

	2000	2009 ESTIMATE
MEDIAN POPULATION OF ALL CAH COUNTIES*	26,733	25,738
Number of CAHs by County Population-2009		
POPULATION	NUMBER	
Under 10,000	3	
10,000-24,999	22	
25,000-49,999	17	
Over 50,000	9	
n=51 *Median county population where CAH is located. SOURCE: U.S. CENSUS, EASI ANALYTICS, INC., 2009		

Critical access hospitals in Illinois had median gross revenues of \$38,607,677 in 2009, with a majority (58.8%) between \$25 million and \$59.9 million (Table 2). Detailed information on gross revenues is not readily available for all hospitals in 2006, which limited some of the comparisons across time. Later in this report, comparisons are reported for changes in margins and related financial measures based on gross revenue of hospitals.

The average full-time equivalent employment (FTE) for Illinois CAHs was 201 in 2009.² By comparison, 25 responding CAHs, from the 51 CAHs surveyed in 2010, had an average FTE of 203 in 2006, and by 2009 that number had increased to 208 with a reported range of 108 to 465 (Table 3). This comparison indicates that the current sample of CAHs is only slightly above the average for the state in terms of FTE. Likewise, the comparisons show that employment in the sample CAHs was stable or increased slightly during the three years studied. Because of the financial and employment differences among the hospitals, some later comparisons use median figures, rather than means.

Table 2: Gross Revenue for 51 Critical Access Hospitals

2009 MEDIAN GROSS REVENUE → \$38,607,677	
CAH GROSS REVENUE	# OF HOSPITALS
\$0-\$24.9 million	12
\$25million-\$39.9 million	15
\$40 million-\$59.9 million	15
\$60 million-\$100 million	9
n=51 SOURCE: WWW.AHD.COM, 2010	

2. 2009 FTE employment information was provided by the Illinois Hospital Association with data from the Centers for Medicare and Medicaid Services (CMS) files when data were not available from the 2010 survey.

Table 3: Snapshot of Sample Critical Access Hospitals

ITEM	2006	2009	% CHANGE (06—09)
AVG. OPERATING EXPENDITURE (N=27)			
Current Dollars	\$18,846,536	\$19,966,655	+5.9%
Constant Dollars*	\$18,846,536	\$16,501,637	-9.1%
AVG. CAPITAL EXPENDITURE (N=26)			
Current Dollars	\$2,063,390	\$2,040,246	+1.1%
Constant Dollars	\$2,063,390	\$1,700,205	-17.6%
Avg. FTE for Illinois CAH Hospitals (n=51)	N/A	201	N/A
Avg. FTE for CAH Survey Respondents (n=25)	203	208	+2.4%

**Expressing revenues in constant dollars adjusts for the impact of inflation and in this report the figures are expressed in 2006 dollars.*
 SOURCE: ICAHN/CGS SURVEYS, 2006, 2010; CMS, 2010

In 2009, responding hospitals reported (Table 3):

- » average operating expenditures of \$19,966,655;
- » average capital expenditures of \$2,040,246; and
- » both expenditure categories increased in current dollars between 2006 and 2009, but in 2006 constant dollars, expenditures were lower in 2009 in both categories.

FINANCIAL CONDITION OF CAHS

The previous CGS study reported that Medicare certification as a CAH resulted in immediate and sustained improvements in revenues for almost every hospital included, and improved profitability for a majority. However, despite these financial improvements, several hospitals reported on-going financial struggles.

Significant findings from the 2006 report:

- » the main sources of revenue for survey respondents were increases in Medicare reimbursements and charges, along with an increase in admissions;
- » sharp distinctions were found between in/out patient payer mix, with a substantial increase in outpatient services as a share of total hospital activity;
- » outpatient services more often involved Medicare and Medicaid, while inpatient care relied more on other third party payments; and
- » CAHs were able to add needed patient and community care services, which caused increased hospital employment opportunities and higher local financial and health impacts.

The current study, conducted during a serious economic recession, shows that the CAH program has helped sustain rural hospitals although many still have financial issues. Late payments from Medicaid create pressure on small hospitals to meet expenses from other sources and these payments are crucial to CAH viability. The adoption of electronic medical records and other health information technologies is expensive making it a concern to CEOs of CAHs in Illinois. Average daily censuses declined in the past three years and Illinois’ median daily Medicare payments are approximately \$200 less than the U.S. average.

The following analysis compares four financial indicators: profitability, liquidity, utilization and revenue for Illinois CAHs in 2006 and 2009. The definitions, formulas, and data for the financial indicators used in this section are from the Flex Monitoring Team (www.flexmonitoring.org) to be consistent with other reports completed by CAHs. Although all 51 Illinois CAH Medicare Cost Reports were reviewed by the Flex Monitoring Team for the indicators, only 40 CAHs provided valid data³, as determined by the Flex Monitoring Team, for both 2006 and 2009, and only those 40 were included in the analysis.

3. The Flex Monitoring Team's reasons for exclusion of data include: no cost report, invalid data, short fiscal year (less than 360 days of reporting) outliers, or pre-conversion (data for three ratios, Medicare outpatient payer mix, Medicare outpatient cost to charge, and Medicare revenue per day) were suppressed because PPS revenue is not comparable to cost-based revenue).

First, the hospitals are grouped by median gross revenue categories for 2009 and are presented in **low** (under \$24.6 million gross revenues), **middle** (\$24.6 million to \$49.9 million), and **high** (\$50 million to \$100 million) categories. The low category represents the bottom quartile and the hospitals reporting the lowest gross revenues; the middle category represents those in the 2nd and 3rd quartiles; and the high category represents the hospitals in the highest quartile reporting the highest gross revenues (Table 4). Next, the hospital data are grouped into the three gross revenue categories according to median responses for several financial indicators for 2006 and 2009. A review of these indicators shows differences in financial status between 2006 and 2009, as well as differences in financial health of hospitals in the gross revenue categories.

Profitability indicators illustrate a CAH's ability to generate the financial returns required to replace assets, meet increases in service demands, and, in a for-profit hospital, compensate investors. The measures include total margin, cash flow margin, and return on equity.

Total Margin reflects the overall profitability of the hospital based on operating/non-operating surplus or loss. This measure compares total hospital revenues and expenses for inpatient, outpatient, and non-patient care activities and measures the percent by which a hospital's total revenues differ from total expenses.

The total margin of hospitals declined in both the low and high revenue categories between 2006 and 2009. At 2.3% in 2009, those CAHs in the high revenue category had a total margin that was less than half of their total margin in 2006 and below the Illinois average (6.3%) for all hospitals. The overall decline in profitability could be caused by many factors, but may reflect the impact of the recession that started in 2008 and caused relatively high unemployment and loss of health care benefits among residents.

Cash Flow Margin indicates the ability of the hospital to generate cash flow from patient services expressed as a percentage based on the ratio of dollars of cash inflow per dollar of revenue from providing patient care services.

As shown in Table 4, CAHs in the middle category, between \$24.6 million and \$49.9 million in gross

revenues, were the only group above the state average of 9.2%. Thus, cash flow seems less of an issue in those hospitals due to a stronger financial base. In 2009, hospitals in the low revenue category had cash flow margins at 0.6%; substantially less than the middle and high categories, or the state average. This margin decreased between 2006 and 2009. Hospitals in the high categories reported small declines, while those in the middle revenue category improved.

The Return on Equity (net income relative to total equity) is highest in hospitals in the middle gross revenue category, between \$24.6 million and \$49.9 million. However, return on equity declined for hospitals in each revenue category with the highest declines in hospitals with the lowest gross revenues (less than \$24.6 million). This is consistent with the decline in total margin and lower profitability indicators. The two other hospital median gross revenue categories also reported declines in return on equity but the changes were smaller. While the middle category declined least by 0.6%, all categories were below the 10.9% average for Illinois hospitals in 2009. Return on equity is affected by many factors including reimbursements and payments from the Federal government, state of Illinois and other agencies.

Liquidity indicators measure the ability to meet cash obligations in a timely manner. An analysis of liquidity reflects the ability of hospitals to pay bills and retire debt as they come due in the near future. The two measures in this report include current ratio and days of cash on hand.

The Current Ratio reflects ability to meet current liabilities with current assets, and measures the number of times short-term obligations can be paid using short-term assets. The current ratio remained relatively stable since 2006 in the middle size category, with a slight decrease in the highest and lowest category CAHs.

Days of Cash on Hand measures the number of days an organization could pay its cash operating expenses if none of the accounts receivable were collected, and reflects the survival period of an organization. CAHs in the highest revenue category had 123.5 days of cash on hand in 2009, although this decreased from 2006 (134.7 days). Hospitals in

Table 4: Financial Indicators of CAHs by 2009 Median Gross Revenue Category

2009 MEDIAN GROSS REVENUE CATEGORY	TOTAL MARGIN*		CASH FLOW MARGIN		RETURN ON EQUITY		OPERATING MARGIN		CURRENT RATIO		DAYS CASH ON HAND		AVG. DAILY CENSUS SWING BEDS*		AVG. DAILY CENSUS ACUTE BEDS	
	'06	'09	'06	'09	'06	'09	'06	'09	'06	'09	'06	'09	'06	'09	'06	'09
LOW Under \$24.6million	1.6	-3.4	3.5	0.6	6.0	-1.1	-0.7	-4.6	2.2	1.5	45.1	53.6	1.9	1.9	3.6	3.2
MIDDLE \$24.6 million— \$49.9 million	4.0	5.0	7.9	9.3	10.6	10.0	2.5	3.9	1.9	2.1	66.9	111.8	2.4	2.0	6.6	5.3
HIGH \$50 million— \$100 million	5.8	2.3	8.2	6.6	7.8	2.1	4.3	4.2	2.4	2.0	134.7	123.5	2.1	2.1	11.1	9.7

n=40
 *Although data for all 51 CAHs was reviewed, the Flex Monitoring Team excluded invalid data, so they were not included in the above calculations.
 SOURCE: WWW.FLEXMONITORING.ORG, 2010

both the low and middle size categories reported an increase in number of days of cash on hand between 2006 and 2009, which may indicate preparation for an expected increase in charity care and delays in state reimbursements.

The concern with CAHs in the low revenue category, under \$24.6 million gross revenue, is that in 2009 they report only 53.6 days of cash on hand, compared to an Illinois median of 74 days for all hospitals and more than 100 days in the other two gross revenue categories. These CAHs may be vulnerable to changes in the economy and/or other factors affecting revenues.

Utilization indicators measure the extent to which fixed assets such as beds are fully occupied. More patient activity generates higher revenues and reduces unit costs by spreading fixed costs over more patients. This analysis examines the average daily census for both swing and acute care beds.

The average daily census in 2006 for **swing beds** declined slightly from 2006 to 2009 in the middle revenue category, but remained steady in the low and high revenue categories (Table 4). The average daily census for **acute care beds** declined in all hospital revenue size categories. There is a general shift to more outpatient services provided by CAHs which affects the utilization of fixed equipment such as beds. The impact on overall profitability of CAHs will depend

on pricing structures for services and/or conversion of facilities to other uses. Examples of CAHs that have reviewed the current demand and realigned their services are provided later.

Revenue indicators measure the amount and mix of hospital revenue sources. Revenues from commercial and private payers reduce reliance on the fixed margins of Medicare and Medicaid. Four indicators are included in this analysis:

- » *Outpatient Revenues to Total Revenues* measures the percent of total revenues that are outpatient revenues including, for example, income from rural health clinics, free-standing clinics, and home health services;
- » *Medicare Inpatient Payer Mix* measures the percent of total inpatient days provided to Medicare patients;
- » *Medicare Outpatient Payer Mix* measures the percent of total outpatient charges that are for Medicare patients; and
- » *Medicare Revenue per Day* measures the amount of Medicare revenue earned per Medicare day.

Both Medicare inpatient and outpatient payer mix categories decreased from 2006 to 2009, but the category of Medicare revenue per day increased from \$1,374 to \$1,662 (Table 5). However, in constant 2006 dollars, the actual revenue per day in 2009 was \$1,373, slightly

Table 5: Critical Access Hospitals Medicare Payer Mix by Patient Type

REVENUE INDICATOR*	2006 MEDIAN	2009 MEDIAN
Outpatient Revenue to Total Revenue All Payers	68.9%	76.2%
Medicare Inpatient Payer Mix	81.6%	80.9%
Medicare Outpatient Payer Mix	40.5%	38.2%
Medicare Revenue per Day	\$1,374	\$1,662
Constant Dollars	\$1,374	\$1,373

n=40

*Although data for all 51 CAHs was reviewed, the Flex Monitoring Team excluded invalid data, so they were not included in the above calculations.

SOURCE: WWW.FLEXMONITORING.ORG, 2010

less than the amount in 2006. These CAHs, therefore, must find other revenue sources to make up the difference if they are to provide the same level of services.

CAHs with lower gross revenues performed consistently less well than their counterparts. In 2009, the median gross revenue in the low category (\$22,155,673) was approximately one-third of that for the high category (\$66,535,593). Whether this is due to number of patients, the Medicare/Medicaid reimbursements, or number of other services provided by the CAHs is not known. Most likely, it is a combination of the three. Regardless, some measures indicate the CAHs are financially stronger than in prior years, but the data suggests tighter finances especially for those CAHs with lower annual gross revenues.

The above comparisons of financial indicators yield several findings. First, the financial condition of CAHs declined between 2006 and 2009. In addition, the 2006 CGS/ICAHN study documented that the CAH program had made hospitals more financially viable by increasing reimbursements. Several measures such as total margin and return on equity indicate that financial conditions have not improved in all CAHs.

Second, substantial differences exist between CAHs. The financial measures (Table 4) show that hospitals in the low gross revenue category are definitely in worse financial condition than those in the high revenue category. As mentioned, the median number of days of cash on hand in the low category was only 53.6, meaning that these CAHs are less liquid and thus are more fragile.

Third, the operating margin of the low gross revenue category worsened between 2006 and 2009. For these CAHs to continue providing high quality services, they require a steady source of revenues. Changes in Medicare and/or Medicaid reimbursements could adversely affect their profitability as could continued delays in payments by the state.

The implications of the financial condition of hospitals are serious for rural communities and it is important to understand the impact of CAHs on employment and sales, which goes well beyond direct employment. The next section examines the economic impacts of CAHs on their community, the surrounding region, and the state.

ECONOMIC IMPACTS OF CAHS ON REGION

Communities with access to high quality health care have a distinct advantage in attracting and retaining businesses and residents, including retirees. Businesses seek a dependable and productive local labor force. Because good health is essential to productivity, community investment in health care services is important.

Because of their relative employment size, CAH facilities have an important economic impact on host communities, regions and the state due to revenues generated and payrolls. The relative stability of hospital and health care employment, when other employers are cutting back, increases the local importance of CAHs. Furthermore, hospital purchases from local businesses stimulate local employment and income (wages, benefits and proprietor income) making health care an

economic engine that indirectly generates hundreds of thousands of dollars in additional revenues and jobs.

A study by the Illinois Hospital Association (IHA) in 2010, *Illinois Hospitals' \$75 Billion Impact on our Economy*, examined how Illinois hospitals support their community and state economies. Paying more than \$14.8 billion in wages and benefits to hospital employees, hospitals are among the largest employers in many rural Illinois counties. The IHA study concludes that Illinois hospitals are economic engines not only because of the jobs they provide, but also because they strengthen the infrastructure of an area by attracting businesses and maintaining a healthy community.

The economic impact analysis presented in the current study used the IMPLAN input/output program developed by the Minnesota IMPLAN Group. Input-Output (I/O) models:

- » are generally accepted tools used to *estimate* the movement of money within a region;
- » use I/O coefficients based on county-specific patterns and include both industry-specific direct and indirect impacts to measure local impacts.

The IMPLAN program generates three types of multipliers for an economic impact analysis (Table 6). The first, the direct multiplier, is based on the CAH's initial spending or employment. As an example, if the CAH spends \$5 million, then this figure represents the direct economic impact while recognizing that some of the funds flow to other areas.

Second, the indirect multiplier reports only industry-to-industry transactions. For example, a CAH purchases goods and services such as local laundry services, food, landscaping, and other items.

This multiplier does not include the effects of local employee spending in retail and service sectors such as housing, grocery store or entertainment.

Third, the induced multiplier includes the industry-to-industry transactions plus household purchases in various sectors as noted above. The total economic impact then is the sum of the direct, plus indirect, plus induced economic impact multipliers (Appendix D has a complete discussion of the methodology).

The economic impact of the CAHs is provided at two levels. The first includes the direct, indirect, and induced effects of the *annual operations* of the CAHs in terms of employment, employee compensation, and gross revenues (output). The second level estimates the *one-time impacts* generated by the *construction* of new and/or upgraded CAH facilities. Both of these measures are important in understanding the local impacts of the CAHs.

IMPACTS OF ANNUAL CAH OPERATIONS

The following economic impact analysis focuses on the 51 Illinois CAHs. In 2009, they collectively had gross revenues (output) of \$2.1 billion and 10,241 employees with employee compensation of approximately \$576 million (Table 7). Thirty-one CAHs provided 2009 FTE and employee compensation data through the 2010 CGS surveys and follow-up phone interviews. The FTEs for the remaining 19 CAHs were estimated from CMS data provided by the Illinois Hospital Association. Employee compensation estimates for the remaining 19 were generated by applying the average percentage of wages and benefits to gross revenues for the 31 sample hospitals to the non-responding CAHs.

Table 6: Economic Impact Multipliers

	DIRECT	INDIRECT	INDUCED
Employment Multiplier	Hospital jobs	Hospital supplier jobs	Local retail and service jobs related to hospital employee spending
Income Multiplier	Hospital employee income	Hospital supplier employee income	Local retail and service income related to hospital employee spending
Sales or Output Multiplier	Hospital revenue	Hospital supplier revenue	Local retail and service revenue related to hospital employee spending

The direct effects of CAH employment and spending are regional, rather than being limited to the county in which the CAH is located, because employees commute from surrounding counties and may therefore purchase goods and services beyond the county in which the CAH is located.

Employment Impact. The employment multiplier links CAH employment to additional job creation in the community. A statewide employment multiplier of 1.76, generated by the IMPLAN model, means that for every 10 people employed by the CAH, an additional 7.6 jobs depend indirectly on the economic activity CAHs generate. In addition to the 10,241 employed directly by CAHs, another 7,769 jobs are supported indirectly in other business sectors (Table 7).

A CAH generates significant business-to-business transactions and hospital employees spend a portion of their earnings locally. The indirect and induced impacts of CAH operations affect virtually all sectors of the economy. It is especially important to understand which business sectors experience the majority of the indirect and induced jobs, output, and wealth created. These impacts vary by CAH location and depend on the proportion of activity retained in the county.

CAHs purchase supplies, rent or buy space and real estate, and use local services in their daily operations.

FOR EVERY 10 CAH JOBS, AN ADDITIONAL 7.6 JOBS ARE SUPPORTED INDIRECTLY IN OTHER BUSINESS SECTORS.

These expenditures, in turn, encourage existing suppliers to add employees. In this case, real estate agencies, food services and restaurants, employment services, and wholesale trade businesses benefit most from the growth in business-to-business (indirect impact) purchasing generated by the CAHs (Table 8).

In addition to employment figures, the IMPLAN program generated an employee compensation multiplier of 1.42, which accounts for the personal income generated by CAH operations. For each \$1 million paid to CAH employees, an additional \$420,000 in wages and benefits are paid to employees in other business sectors.

In Illinois counties with CAHs, this means:

- » hospital employees directly earned approximately \$576.3 million in compensation in 2009;
- » an additional \$241.5 million in wages and benefits were paid to employees in other business sectors; and
- » approximately \$817.5 million in employee compensation were directly or indirectly attributed to the presence of critical access hospitals.

Table 7: 2009 Total Impacts of CAHs on Region

IMPACT TYPE	DIRECT IMPACT	INDIRECT & INDUCED IMPACT	TOTAL ECONOMIC IMPACT
Employment	10,241	7,769	18,010
Employee Compensation	\$576,266,570	\$241,539,347	\$817,805,906
Gross Revenue (output)	\$2,135,521,821	\$844,293,686	\$2,979,815,507

Table 8: Businesses Most Affected by Indirect and Induced Employment Impacts

INDUSTRY	EMPLOYMENT	PERCENT OF TOTAL*
Real Estate	776	10.0%
Food Services And Restaurants	755	9.7
Employment Services	627	8.1
Wholesale Trade	314	4.0
Medical and Diagnostic Labs, Ambulatory Services	382	3.4

*Represents the indirect and induced jobs created or supported in the industry as a percent of the total indirect and induced jobs created or supported by the Illinois CAHs.

Output. This measure represents the value of an industry’s business activities, mainly sales or revenues in the case of hospitals. As with employment, the approximately \$844.3 million in indirect and induced output (gross revenue) affect many sectors. The output multiplier generated by the IMPLAN program is 1.40, which means that for every \$1 million received by CAHs an *additional* \$400,000 in revenues are generated in other industries.

Real estate and wholesale trade businesses benefited most from the growth in business-to-business (indirect impact) purchases generated by the CAHs (Table 9). Again, purchasing supplies and using local services cause an increase in sales for other CAH suppliers. The impact on the real estate, wholesale trade, food services and restaurants, and to a lesser extent various financial services sectors, results mainly from household expenditures (induced impact) by CAH employees and household expenditures by employees in businesses indirectly impacted by CAH operations.

IMPACTS OF CONSTRUCTION PROJECTS

Annual operations are only one measure of the impact of CAHs on their regional economies. The second part of the economic analysis considers the community impact of CAH *construction, renovation and expansion* projects. The CEOs and CFOs of 18 CAHs who completed the survey on management and expenditures reported they had initiated or completed a construction, renovation or expansion project during the past three fiscal years (07–09). These improvements included new facility construction, remodeling or expansion of existing facilities, and acquisition of equipment and technology.

FOR EVERY 10 CONSTRUCTION JOBS CREATED BY CAH CONSTRUCTION PROJECTS, AN **ADDITIONAL 3.7 JOBS** ARE SUPPORTED IN THE COMMUNITY.

Several projects involved *major* capital improvements with the construction of new facilities or major renovations estimated at *\$10 million or more*. The impact of the projects on their respective communities extends far beyond the immediate effects of employment and spending for building materials, equipment or technology. These capital projects also expand and improve the quality, convenience and variety of health care services that contribute to the long-term viability and quality of life in the communities.

The impacts of these construction, renovation, or expansion projects were estimated using the IMPLAN program which generated construction expenditures and employer multipliers (job creation) for CAH construction activity. The small and large scale construction projects for the 18 CAHs totaled approximately \$149.9 million (Table 10). These projects also created 218 FTE positions as self-reported by the responding CAHs. However, for construction projects, the IMPLAN program focuses only on temporary construction jobs and their direct, indirect, and induced impacts. The IMPLAN employment multiplier of 1.37 shows that every 10 CAH construction jobs support an *additional* 3.7 jobs in the community.

Table 9: Business Categories Most Affected by Indirect and Induced Output Impacts

INDUSTRY	OUTPUT	PERCENT OF TOTAL*
Real Estate	\$102,586,103	12.2%
Wholesale Trade	\$50,340,207	6.0
Food Services and Restaurants	\$37,599,005	4.5
Banks And Lenders	\$30,421,512	3.6

*Represents the indirect and induced output created or supported in the industry as a percentage of the total indirect and induced output created or supported by the Illinois CAHs.

The \$149.9 million of CAH construction expenditures produced:

- » short-term or temporary employment (mostly construction) of approximately 1,000 workers, with employee compensation of \$36.2 million as a direct result of projects;
- » \$41.8 million in sales or revenue in other business sectors with 370 jobs supported and employee compensation of \$11.1 million.

Thus, the total economic impacts of the CAH construction projects were approximately \$41.8 million in sales or revenue, 1,369 jobs, and \$47.3 million in employee compensation statewide.

In addition to employment, the IMPLAN construction output multiplier of 1.28 means that for every \$1 million generated by CAH construction projects, an additional \$280,000 in revenues is generated in other business sectors. The secondary output impacts of these construction projects on their communities are felt most in the following industries:

- » wholesale trade businesses;
- » banks and lenders;
- » architectural, engineering, and related services; and
- » food services and restaurants.

These business sectors benefited most from the growth in business-to-business (indirect impact) purchasing activities generated by the CAH construction projects (Table 11). The impacts on the wholesale trade businesses, architectural and engineering services, banks and lenders, and the food services and restaurants were primarily the household expenditures (induced impact) by the construction employees and the employees of businesses near the construction project.

Although the short-term impacts of construction projects are more visible and easily quantifiable, there are also long-term implications within the CAH service area in terms of higher quality and variety of services that CAHs can now offer as well as the resulting new health care employment opportunities.

The above analyses show the importance of CAHs in local and regional economic activity beyond direct employment and revenues from annual operations. Although the economic impact is felt primarily through hospital expenditures for local services and payroll, employee spending in local retail and service sectors plus the related effects on the supply chain also are important.

Table 10: 2009 Impacts of CAH Construction Expenditures on 18 Service Areas

Total Construction Expenditures (n=18)		\$149,910,899	
IMPACT TYPE	DIRECT IMPACTS	INDIRECT & INDUCED IMPACTS	TOTAL ECONOMIC IMPACTS
Revenue or Sales (output)	-	\$41,841,385	\$41,841,385
Employment (temporary)	999	370	1,369
Employee Compensation	\$36,174,440	\$11,113,005	\$47,287,445

Table 11: Industries with Significant Indirect and Induced Construction *Output* Impacts

INDUSTRY	OUTPUT	PERCENT OF TOTAL*
Wholesale Trade Businesses	\$4,126,484	9.9%
Architectural, Engineering, And Related Services	\$3,601,737	8.6
Banks and Lenders	\$2,521,751	6.0
Food Services and Restaurants	\$1,838,650	4.4

*Represents the indirect and induced output created or supported in the industry as a percentage of the total indirect and induced output created or supported by the CAHs.

ISSUES FACING CRITICAL ACCESS HOSPITALS

This section examines the current issues identified by survey respondents as barriers or complications to their operations and how they have responded. Understanding the context in which the CAHs operate, their fiscal conditions, and responses to the sluggish economy, including expenditure cutbacks or revenue generating strategies, is important.

FINANCIAL HEALTH OF HOSPITALS

Local economic conditions and reimbursement policies of the federal and state governments directly affect the financial condition of CAHs. To provide an overview of the financial health, CEOs were asked about their ability to meet current patient demand. Approximately 45% of respondents reported adequate capacity to meet patient demand. An additional eight hospitals reported excess capacity.

This section uses simple correlation analysis (Kendall-Tau) to identify associations, e.g., a relationship is described as “significant” when the correlation between two variables is statistically significant at the 5% or higher level. In other discussions, relationships significant at 10% or higher are included.

A comparison of CAH characteristics illustrates that those with excess capacity were more often in areas with decreasing populations, which may reduce demand for hospital stays. According to survey respondents, these hospitals do not necessarily face greater competition from other health care providers. Projected population decreases will cause CAH staff to find new ways to deliver services, in some instances using technology more effectively or sharing expertise with other health care providers and agencies.

CEOs were asked about their perception of the financial future for hospitals during the next two years. A majority of respondents (53%) thought conditions would worsen, while 12% of respondents expected improvements.

Overall, respondents remain positive about their current and future financial health and viability; however, respondents identified several important fiscal issues. Although CAHs differ in populations served, health needs, and economic climate, CEOs and CFOs reported similar approaches to addressing the following issues.

Patient Revenues Do Not Meet Expenses. While CAHs receive higher Medicare reimbursement rates than Prospective Payment System (PPS) hospitals, the adequacy of patient revenues remains an issue. Forty-six percent of responding CAHs reported inadequate revenues as an important or major factor affecting their financial health (Table 12). Delays in state reimbursements and inadequate federal reimbursement rates are especially important as is the impact of competition from other health care providers.

Higher Costs To Implement Technology. Responding CEOs reported serious concerns about the costs of implementing necessary technology and, to a lesser degree, the effects of adverse local economic conditions on revenues. Faced with the prospect of adding expensive technology in the near future, 27 CEOs (85%) rated these costs as “important or of major importance.” Although no correlation was found between CEOs who think that finances will substantially worsen in the next two years and the importance of costs to add technology, other important issues were reported.

Hospital administrators concerned that patient revenues would not cover costs also reported higher costs of adding technology as a major issue. Likewise, CEOs concerned with the costs of technology reported concerns about the growing share of services being delivered on an outpatient basis and the inability of an aging rural population to pay bills. These two issues are related if greater use of technology reduces the average daily patient census and reduces hospital revenues.

Adding technology may also require upgrading the expertise of hospital personnel and/or adding specialized services. Based on CEO responses, number of staff employed by the CAH does not seem to be a factor.

CEOs who rated the costs of adding technology as an important issue also said unfunded state mandates are especially important. Seventy-five percent of responding CEOs reported these mandates as either important or of major importance. Mandates are a commonly cited concern because they often impose additional requirements with little consideration of special needs or ability to pay. While technology may improve services available to residents, CAHs subject

Table 12: Factors Affecting CAH Financial Health Reported by CEOs

FACTOR	RANKED AS MAJOR OR IMPORTANT IMPACT	
	# of Responses	Percent
Higher costs to implement technology into hospital services	27	85%
Increase in charity care because of unemployment	26	81
Inadequate federal reimbursement for services	24	75
Greater share of outpatient services	24	75
Unfunded state mandated programs	24	75
Delays in state reimbursement for services	23	72
Local business closures/higher unemployment/reduced demand	20	63
Inability of an aging rural population to pay health bills	16	50
Increased competition from other health service providers	14	45
Patient revenues do not meet expenses	14	45

SOURCE: ICAHN/CGS SURVEY, 2010

to the mandates may not have a ready source of revenue to pay for them.

Competition From Other Health Service Providers.

Responding CEOs were divided on the importance of increased competition from other health service providers. Fourteen CEOs (45%) reported that this competition had an important or major impact on their financial condition. However, 28% reported it as minor or no impact. CEOs who reported the greater impact of competition more often reported an inability to hire specialized expertise and expressed concern that patient revenues do not cover costs.

To summarize, responding CEOs face several connected issues:

- » population trends in rural Illinois include reduced numbers of residents, an outmigration of young families, and a higher proportion of elderly residents;
- » elderly residents may have a greater need for hospital care, but may be less able to pay full costs without supplemental state or federal assistance;
- » public and private reimbursement programs may not cover the full cost of providing services and payments may be delayed; and
- » the current recession, and continued high unemployment, have increased the charity care that CAHs provide, lessening their profitability.

CEOs can respond to changing demographics, markets, and financial conditions in many ways. Their responses to financial issues are discussed next.

STRATEGIES TO ADDRESS FINANCIAL ISSUES

CAHs can reduce expenditures, increase revenues, or both, as they struggle with tight financial conditions. Each strategy has implications for the communities in which the CAHs are located because of the economic impacts described earlier.

To reduce expenditures, common measures include delaying future construction projects, postponing capital purchases, delaying replacement of equipment and other activities that do not immediately compromise health care services. These strategies, however, can only continue for so long before future expenditures required to make-up for these delays exceed the cost savings. Expenditure reductions also may be tempered by long-term contracts or other institutional obligations that prevent immediate responses by hospital administrators.

An alternative strategy is to find additional revenues to support operations. In some instances, new revenue sources are completely under the control of the CAHs while others require actions by governments or may involve a long period before the revenues materialize. Political resistance to tax increases

may delay or prevent use of some remedies.

The most likely set of strategies for responding to the current recession is a combination of expenditure cutbacks and revenue enhancements determined by the unique characteristics and situation of the CAH. The use of these approaches is described next.

EXPENDITURE CUTBACKS

In the 2010 CGS/ICAHN survey, CAH administrators ranked expenditure cutting strategies used on a five point scale (5=very likely). The results show that the most common response (mode) to financial cutbacks was to provide smaller employee pay increases in the next year (Table 13). This approach is a relatively fast way to reduce expenditures. No differences were reported in the use of this strategy by number of staff and/or location within the state. Likewise, neither current financial status, nor expected conditions in the next two years, were related to this expenditure response. At the same time, CEOs were not likely to forego employee pay increases completely but nevertheless ranked this strategy as preferable to reducing staff numbers.

CAHS PROVIDE SMALLER PAY INCREASES AND DELAY MAINTENANCE BEFORE TERMINATING EMPLOYEES OR REDUCING SERVICES.

Providing smaller pay increases as a strategy also was reported by CEOs who viewed postponing construction of new facilities and delaying maintenance or replacement of equipment as important. This relationship suggests that CEOs use several strategies to reduce costs involving both personnel and maintenance of facilities or equipment.

Delaying maintenance or replacing equipment ranked second highest (3.8 of possible 5) as a strategy, followed by postponing repairs or maintenance on buildings (3.5 of a possible 5) meaning both are likely approaches used to balance budgets. CEOs with more pressing current financial conditions did not necessarily report implementing either smaller pay increases or delays in maintenance.

Postponing construction of new facilities is also a likely strategy but ranked only 3.4 on the 5 point scale. A possible reason may be that some projects

Table 13: Expenditure Cutting Measures

	APPROACH	MODE	MEAN
<i>Most Likely Measures</i>	Provide smaller employee pay increases	5	4.0
	Delay maintenance/replacement of equipment	4	3.8
	Postpone repairs or maintenance on buildings	3	3.5
	Postpone construction of new facilities	5	3.4
	Postpone needed staff additions/pay employees over time	3	3.1
	Reduce staff through retirement (attrition)	-	3.0
<i>Least Likely Measures</i>	Delay or partially pay bills at the end of the year	1	2.1
	Cost share with another hospital	1	2.0
	Forego employee pay increases	1	2.0
	Reduce staff through early retirement	1	1.9
	Terminate employees because of budget	1	1.9
	Temporarily furlough employees	1	1.7
	Reduce services	1	1.6
n=21 Note: 1 = Not likely, 5 = Very likely SOURCE: ICAHN/CGS SURVEY, 2010			

were already contracted or started. Thus, postponing them was no longer viable or could cause additional costs for the hospital. Responding CEOs who reported this strategy also rated current financial conditions as worse and reported delays in repairs and maintenance of buildings as important.

CEOs who reported postponing construction were also more likely to delay hiring needed staff or paying overtime. There was a significant correlation between postponing construction and providing smaller pay increases as well. Responding CEOs rated reducing staff either through attrition (3.0), early retirements (1.9), terminations (1.9), or temporary furloughs (1.7) as relatively low in importance.

Reducing staff was reported as most likely by CEOs who reported delaying payment of bills at year-end; those reducing services, those not hiring additional staff when needed, and /or those foregoing employee pay increases. In other words, staff reductions were relegated to the most serious financial situations when many other cost-reduction strategies also were used.

REVENUE ENHANCEMENTS

An alternative approach to expenditure cuts involves increasing revenues through tax and fee increases or obtaining funds from other government agencies.

CEOs did not rate revenue enhancement strategies as likely to occur as expenditure reductions. This was possibly because revenue options are not always under the direct control of the hospital administrators or because they take longer to generate positive results. Several revenue enhancement alternatives are discussed next (Table 14).

Apply For Grants To Support Services. The approach reported most often, and the one with the highest likelihood of use, was to apply for grants to support services. This strategy ranked 3.9 on the 5 point scale and was reported by 25 CEOs. The most common rating was a 5.0 which makes it a very important strategy for CEOs reporting it. These CEOs also indicated their hospitals had higher financial needs. They more often seek donations from individuals and they expand or add services for which fees can be charged (e.g. wellness programs). In essence, these CEOs adopt a more entrepreneurial management approach. This revenue enhancement strategy is not related to staff size and CEOs in the northern half of Illinois more often reported applying for grants but the relationship was not significant.

Increase Charges For Basic Health Services. The second most often reported strategy involved increasing charges for basic services. This approach ranked 3.6 on the 5 point scale and was reported

Table 14: Revenue Enhancement Measures

		FISCAL TOOL	MODE	MEAN
Most Likely Measures	}	Apply for grants to support services	5	3.9
		Increase charges for basic medical and health services	5	3.6
		Raise room rates	5	3.4
		Seek more donations from individuals	3	3.2
		Add new physician services	3	3.0
Least Likely Measures	}	Recruit new physician specialty	1	3.0
		Add services	-	2.9
		Increase services for which fees can be charged	1	2.7
		Seek more financial contributions from businesses	1	1.8
		Initiate charges for services formerly provided at no charge	1	1.7
		Request higher tax levy to support services	1	1.5
		n=26		
		Note: 1 = Not likely, 5 = Very likely		
		SOURCE: ICAHN/CGS SURVEY, 2010		

by 26 hospitals in the sample. The large response shows the importance of the strategy and it is easier for CAHs to increase charges where demand and the economy are strong. Respondents in the northern half of Illinois more often reported this strategy even though the CEOs did not necessarily report better overall local financial conditions.

CEOs that ranked increasing charges for basic services as important were also likely to raise room rates. They reported a strong likelihood to increase services for which fees can be charged. These CEOs expanded the local revenue base, but they did not report charging for services formerly provided on a complementary basis.

Raise Room Rates. While CEOs in northern Illinois ranked raising room rates as an important revenue enhancement strategy, this approach ranked lower, on average, than increasing charges for basic services and applying for grants, according to the 26 responding CEOs. However, the modal response was 5 so it was an important option. A possible explanation is that CAHs are reimbursed by external agencies at designated levels and increasing room rates will not generate much additional revenue unless the external agencies accept these rates.

Seek More Donations From Individuals. Pursuit of private donations was reported less often but was still a viable option. This strategy was rated 3.2 on the 5 point scale with 3 as a modal response. CEOs who rated this strategy as important were located in counties with population growth during the past 10 years, which may also reflect higher prosperity. However, the relationship between current financial condition and expectations for the next two years was not strongly related to seeking private donations. The lower likelihood of seeking donations as a revenue strategy may be because the amounts collected are relatively small or less dependable than other strategies and take considerable effort or resources to implement.

Add New Physician Services, Recruit New Physician Specialty, or Add Services. CEOs also reported that it was important to expand the range of hospital services provided. However, the average CEO reported this strategy as less likely than those discussed earlier. The modal response (3) was highest in the case

CAHs were more likely to **INCREASE CHARGES** FOR BASIC HEALTH SERVICES AND APPLY FOR GRANTS **RATHER THAN RAISE ROOM RATES OR CHARGE FOR PREVIOUSLY COMPLIMENTARY SERVICES.**

of adding new physician services but lower (1) in the case of recruiting a new physician specialty. Adding other services to increase revenues was important but ranked only slightly lower (2.9) as a strategy than adding physician services.

CEOs of CAHs with poor financial conditions were more likely to favor adding new physician services. Those CEOs who expected difficult financial conditions in the future also ranked recruiting new physician specialties higher. Number of hospital staff and CAH location in the state are not highly related to the likelihood of using these approaches.

Several options such as seeking more financial contributions from businesses (1.8), charging for formerly complimentary services (1.7), and requesting higher tax levies to support services (1.5) all ranked much lower as possible revenue enhancers. The lower importance of these approaches may be explained partly by the fact that they have the potential to raise less revenue, involve working with governmental units to raise the tax levy, or are affected by economic conditions. These conditions are beyond the control of the CAHs. However, CEOs most likely to ask businesses for additional donations were likely to ask for higher levies and to charge for previously complementary services.

The CAHs surveyed in 2010 also were asked how they were adapting to the challenges and issues they described. The next section examines those results.

ADAPTING TO FUTURE CHALLENGES

In addition to expenditure cutting and revenue enhancing responses to immediate financial conditions, CEOs addressed the broader challenges of changing local demographics and economic structures. CEOs must continually recognize and evaluate changing demographics to maintain appropriate service and delivery arrangements. These responses are not always easy when CAHs are among the largest local

employers, services have been offered in the past at a monetary loss, and removing certain services, such as obstetrics, are not welcomed by local groups. However, there are positive examples of how reorganization of existing CAH facilities and services helped address budget deficits and maintained necessary services.

Population Aging. Aging of residents and changes in the work force are important long-term issues for CAHs to consider. Increases in median population age will increase the amount of health care services required and cause changes in the mix of services needed. These trends, in turn, will have economic implications that could affect policies about future coverage and the provider reimbursement system. When CEOs were asked about the increase in amount of care needed by an aging population, 25 (80% of respondents) said it is important or very important to the future of their hospitals.

One CAH in Illinois faced a decrease in number of youth in the region, and a rise in elderly population, similar to other rural hospitals. The hospital administrator decided to convert space from an underutilized OB-GYN practice to an outpatient chemotherapy service area. The hospital likewise converted a former nursery into a much needed pharmacy expansion. The delivery room (used for fewer than two deliveries per month) became a laser procedure room, which is now used at 100% capacity. Hospital personnel noted, “We needed to make more usable space. We could not take the big hit in this economy by keeping open a virtually unused OB-GYN practice.”

Perhaps the most replicable change was the utilization of the remaining space (post-partum unit) for an outpatient geropsychology service. The hospital can now serve a growing elderly population with comprehensive programs that help regulate their medications and offer group/individual activities, counselors, and

ON AVERAGE, RESPONDING CEOs REPORTED AN **INCREASE** IN CHARITY CARE COSTS OF **126%** BETWEEN 2006 TO 2009.

companionship. Although replacing services and closing units are difficult, CAHs like this one have found innovative ways to respond to population needs while reusing existing facilities to serve a changing and expanding service demand. Not only is it a positive addition to community services, it is now a revenue producing unit for the hospital.

Increase In Charity Care Costs. Health care reform is underway and will substantially affect the face of health care in America. Coupled with the stagnant economy, many rural hospitals are positioning themselves for viability and profitability in the future. A recent IHA report, *Illinois Hospitals \$75 Billion Economic Impact on Our Economy*, stated that hospitals across Illinois experienced a 100% increase in charity care costs since 2005, and responding CAH CEOs are reporting the burden at an even higher level due to poorer economic conditions. On average, 25 CEOs reported a 126% increase in charity care costs from \$166,794 in 2006 to \$377,446 in 2009 (Table 15).

Recruitment and Retention of Staff. Health care workforce shortages are a prominent issue in rural areas for many well-documented reasons including an aging workforce, pending retirements, difficulty retaining and recruiting workers, and lack of educational and training opportunities. Recruiting and retaining both primary care physicians and nursing staff are important issues in most rural areas. The workforce shortage affects CAHs in Illinois: 23 CEOs (72% of respondents) reported hiring and retaining staff as a serious issue to be faced during the next five years.

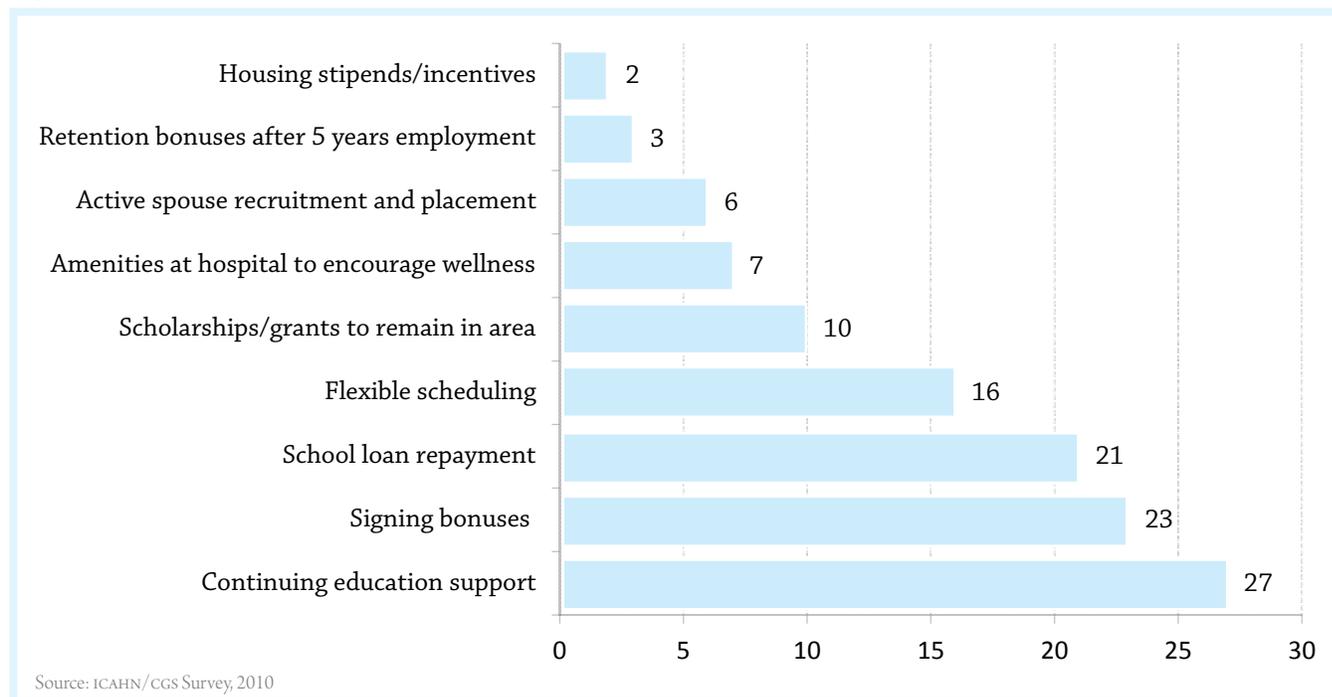
Table 15: Rising Cost of Charity Care in CAHs

	2006	2009
Charity Care Costs	\$4,169,612	\$9,436,143
Avg. Annual Charity Care Cost/ Hospital	\$166,794	\$377,446

n=25

SOURCE: ICAHN SURVEY, 2010

Figure 2: Incentives Used To Recruit and Retain Staff



Hospitals promote retention and advancement of personnel using incentives, training opportunities, loan repayment programs, and support services such as helping spouses find professional employment opportunities, and providing continuing educational training programs. Additional incentives used recently include flexible work hours, time-off from work to attend work-related training, or tuition assistance for continuing education. Figure 2 shows that the most often cited strategies were:

- » continuing education for staff (90%);
- » signing bonuses (77%);
- » assistance for repayment of educational loans (70%); and
- » flexible scheduling (53%)

CEOs also noted moderate to serious obstacles (ranked 4 or 5 on a scale of 1 to 5) to successful recruitment and retention programs. The following obstacles were reported:

- » opportunities in community are seen as limited by prospective personnel (66%);
- » hospital is too small to offer specialties of interest (41%);

- » community is too remote and isolated for many applicants (40%);
- » not enough employment opportunities for spouse/partner (38%); and
- » patient demand does not generate adequate revenues (35%).

Budget constraints make providing financial incentives, such as bonuses and raises, difficult. One CAH in Illinois combined community outreach with employee quality of life incentives to overcome these constraints. In January 2010, a new rehabilitation/wellness center, a \$2.2 million project that included an 11,720 sq. ft. expansion to the existing rehabilitation building, was constructed. The addition provides space for patients to receive rehabilitation services, but employees and the general public can also use the new center. Hospital officials noted that community outreach is critical in hospital operations and the impact on the community is more than financial. Hospital administrators emphasized, “We should be more than a last point; we should help with prevention, fitness, and overall health of the community.”

Access to a state of the art health care facility that can be used before or after work, with full locker and shower facilities is now an added incentive to working at the hospital. This example of employee incentives focuses on wellness services and facilities within a hospital to emphasize community outreach and promote employee health and well-being.

Service Delivery Approaches and Technology Implementation. Health care reform legislation and changes in rural health care encourage hospitals to focus on efficiency, collaboration and health information technology (HIT) to continue to meet evolving community needs. Hospitals and physicians use HIT to record health information electronically, facilitate clinical decision-making, streamline clinician workflows and monitor population health, all to serve patients better and lower long-term costs.

Electronic health record (EHR) systems have been a focus of recent attention by policymakers. The American Recovery and Reinvestment Act of 2009 (ARRA) authorized incentive payments to eligible hospitals and physicians that are “meaningful users” of EHRs. Due to the incentives and other funding opportunities, policymakers expect a majority of hospitals and physicians to adopt EHRs by 2015 (American Hospital Association). The issues for most CAHs in implementing these systems will be time and resources. Although 2010 survey respondents view the EHR transition, and other technology issues, as challenging in a financially constrained environment, they are making the necessary changes.

In order to stay financially viable, efficient, and to provide the most up-to-date medical services, responding CAHs reported the following strategies:

- » nearly a quarter of respondents have implemented EHRs in their hospital activities;
- » 30% of respondents plan to implement EHRs within the next two years;
- » 15 CAHs (47% of respondents) had telemedicine available at their hospitals;
- » 7 CAHs (22% of respondents) were in the process of making telemedicine available.

Telemedicine and EHR will require hospitals to invest in high-speed broadband digital access to make the technologies function most efficiently, which will also affect profit margins due to the expense involved. In fact, the cost and funding availability for the EHR transition ranked highest as a moderate to serious obstacle (78%). Several other obstacles were also identified:

- » staff and training issues (69%);
- » insufficient technical support (46%); and
- » outdated computers or networks (42%).

Recruiting and retaining specialized health care staff are challenging in rural areas and the extra staff needed to help implement new HIT is a concern reported by a majority of responding hospital administrators. Although federal funding is available, the requirements for meaningful use of EHR are often seen as an impediment to funding. Adapting service delivery approaches, collaboration, and shared technology services will be more necessary in the future as patient needs and demographics in rural health care continue to change.

CONCLUSIONS

This report has addressed four main issues: the current financial condition of CAHs and the services they provide, the impact of the current recession, the economic impact of CAHs on their communities, regions, and statewide, and how CAHs are adjusting to technology, organizational and personnel changes, and related trends.

First, the CAH program has significantly contributed to the financial viability of eligible rural hospitals as shown by the financial data reported previously. Most CAHs in Illinois are financially stable partly because of Medicare reimbursements and related CAH program provisions. In spite of the financial stability, however, there are signs that the recession and loss of population are adversely affecting the financial condition of some CAHs. The 2006 and 2010 CGS reports found that CAH designation:

- » allowed increases in staff and program offerings, such as better diagnostics and community wellness clinics;
- » allowed replacement of aging facilities and provided a short-term boost to the local economy during construction; and
- » improved services because of staff increases enabled by CAH program support.

Second, financially healthy CAHs are critical to the future prosperity of rural Illinois both because they provide services that residents consider essential to quality of life, and because they are often a major economic engine in the region. In 2009, the combined gross revenues (output) of 51 critical access hospitals in Illinois was \$2.1 billion.

The impact of CAHs as major employers is well-documented in this and other reports both in terms of operating expenditures and construction activities. CAHs employed 10,241 people with annual employee compensation of slightly more than \$576 million. Also, for every 10 people employed by the CAH hospitals, an *additional* 7.6 jobs in their respective communities depend indirectly on the economic activity generated. These amounts are important, especially in rural counties. Likewise, the stability of health care employment helps these communities overcome adverse economic conditions.

CAH construction projects also have had important impacts on the local economies. While the immediate impact of construction jobs is temporary, the added facilities offer opportunities for expanded services, which ultimately add employment. The construction multipliers indicate that 10 construction jobs can add 3.7 temporary jobs in the local economy, depending on size of the community and its retention of spending.

Third, the current adverse economic conditions have forced CAHs to implement both expenditure cutting and revenue enhancing strategies. Overall, some hospitals that participated in the ICAHN/CGS survey had excess capacity, which resulted partly from population decreases and reductions in demand for services. Looking forward, however, continued aging of the population may cause hospitals to readjust the services provided.

Finally, responding CEOs reported that pending requirements to add technology applications in the hospital were of significant concern with respect to costs, although some already have made major advancements. The CEOs also reported some difficulties in attracting and retaining specialized personnel and this may become even more of an issue in the future especially in communities where opportunities are limited, and career opportunities for spouses are not available.

Unfunded mandated programs were identified as a significant cost factor in operating hospitals, as were delays in state reimbursements for services. The cost increases, delays in payment, and relatively poor economic conditions that generated an increase in charity care were all important issues affecting the financial health of CAHs.

CAHs face significant challenges as they struggle with a down economy, changing demographics, and requirements to implement technological changes. While their financial conditions have improved with the CAH program, significant changes in reimbursement programs or other provisions currently under discussion could adversely affect the margins of rural hospitals and their viability. Their importance to continued local prosperity make it critical to continually monitor the effects of legislative changes on the financial viability of CAHs and work with CEOs to identify new approaches to provide quality health care services.

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Appendices

Appendix A: Hospitals Responding to Online Policy Survey

Appendix B: Hospitals Responding to Survey on Management and Expenditures

Appendix C: Critical Access Hospitals' County Populations

Appendix D: Economic Impact Methodology

Appendix A: Hospitals Responding to Management and Policy Practices Online Survey

- » Advocate Eureka Community Hospital
- » Community Memorial Hospital
- » Crawford Memorial Hospital
- » Dr. John Warner Hospital
- » Fairfield Memorial Hospital Association
- » Ferrell Hospital Community Foundation
- » Franklin Hospital District
- » Gibson Area Hospital and Health Services
- » Hamilton Memorial Hospital
- » Hammond-Henry Hospital
- » Hillsboro Area Hospital
- » Illini Community Hospital
- » John & Mary E. Kirby Hospital
- » Lawrence County Memorial Hospital
- » Marshall Browning Hospital
- » Massac Memorial Hospital
- » Memorial Hospital-Carthage
- » Mendota Community Hospital
- » Mercer County Hospital
- » OSF Holy Family Medical Center
- » Pana Community Hospital
- » Paris Community Hospital
- » Perry Memorial Hospital
- » Pinckneyville Community Hospital
- » Rochelle Community Hospital
- » Salem Township Hospital
- » Sarah D. Culbertson Memorial Hospital
- » Sparta Community Hospital District
- » Union County Hospital
- » Wabash General Hospital
- » Washington County Hospital

Appendix B: Hospitals Responding to Operational Practices Survey

- » Dr. John Warner Hospital
- » Fairfield Memorial Hospital Association
- » Ferrell Hospital Community Foundation
- » Franklin Hospital District
- » Gibson Area Hospital and Health Services
- » Hamilton Memorial Hospital
- » Hammond-Henry Hospital
- » Hardin County General Hospital
- » Hillsboro Area Hospital
- » Hoopeston Regional Health Center
- » Illini Community Hospital
- » John & Mary E. Kirby Hospital
- » Lawrence County Memorial Hospital
- » Marshall Browning Hospital
- » Memorial Hospital-Chester
- » Memorial Hospital-Carthage
- » Mendota Community Hospital
- » Mercer County Hospital
- » OSF Holy Family Medical Center
- » Pana Community Hospital
- » Perry Memorial Hospital
- » Pinckneyville Community Hospital
- » Rochelle Community Hospital
- » Salem Township Hospital
- » Sarah D. Culbertson Memorial Hospital
- » Sparta Community Hospital District
- » Valley West Community Hospital
- » Wabash General Hospital

Appendix C: Populations of Counties with Critical Access Hospitals

HOSPITAL	COUNTY	2000	2009 ESTIMATE	% CHANGE
Hardin County General Hospital	Hardin	4,800	4,358	-9.2
Sarah D. Culbertson Memorial Hospital	Schuyler	7,189	6,730	-6.4
Hamilton Memorial Hospital District	Hamilton	8,621	8,096	-6.1
Wabash General Hospital	Wabash	12,937	11,997	-7.3
Clay County Hospital	Clay	14,560	13,538	-7.0
Thomas H. Boyd Memorial Hospital	Greene	14,761	13,567	-8.1
Gibson Area Hospital & Health Services	Ford	14,241	13,911	-2.3
Washington County Hospital	Washington	15,148	14,560	-3.9
Mason District Hospital	Mason	16,038	14,785	-7.8
Massac Memorial Hospital	Massac	15,161	14,970	-1.3
Dr. John Warner Hospital	DeWitt	16,798	16,034	-4.5
Illini Community Hospital	Pike	17,384	16,273	-6.4
Mercer County Hospital	Mercer	16,957	16,276	-4.0
Fairfield Memorial Hospital	Wayne	17,151	16,294	-5.0
Lawrence County Memorial Hospital	Lawrence	15,452	16,408	6.2
John and Mary E. Kirby Hospital	Piatt	16,365	16,550	1.1
OSF Holy Family Medical Center	Warren	18,735	17,409	-7.1
Union County Hospital	Union	18,293	18,005	-1.6
Memorial Hospital-Carthage	Hancock	20,121	18,359	-8.8
Paris Community Hospital	Edgar	19,704	18,471	-6.3
Crawford Memorial Hospital	Crawford	20,452	19,433	-5.0
Fayette County Hospital	Fayette	21,802	20,935	-4.0
Midwest Medical Center	Jo Daviess	22,289	21,990	-1.3
Marshall Browning Hospital	Perry	23,094	22,424	-2.9
Pinckneyville Community Hospital District	Perry	23,094	22,424	-2.9
Ferrell Hospital	Saline	26,733	25,738	-3.7
Hillsboro Area Hospital	Montgomery	30,652	29,500	-3.8
St. Francis Hospital	Montgomery	30,652	29,500	-3.8
Abraham Lincoln Memorial Hospital	Logan	31,183	29,776	-4.5
Memorial Hospital-Chester	Randolph	33,893	32,686	-3.6
Red Bud Regional Hospital	Randolph	33,893	32,686	-3.6
Sparta Community Hospital	Randolph	33,893	32,686	-3.6
Pana Community Hospital	Christian	35,372	34,253	-3.2
Taylorville Memorial Hospital	Christian	35,372	34,253	-3.2
Perry Memorial Hospital	Bureau	35,503	34,699	-2.3

HOSPITAL	COUNTY	2000	2009 ESTIMATE	% CHANGE
Advocate Eureka Hospital	Woodford	35,469	38,862	9.6
Salem Township Hospital	Marion	41,691	39,008	-6.4
Franklin Hospital	Franklin	39,018	39,312	0.8
Carlinville Area Hospital	Macoupin	49,019	47,774	-2.5
Community Memorial Hospital	Macoupin	49,019	47,774	-2.5
Hammond Henry Hospital	Henry	51,020	49,314	-3.3
Kewanee Hospital	Henry	51,020	49,314	-3.3
Rochelle Community Hospital	Ogle	51,032	55,336	8.4
St. Joseph Memorial Hospital	Jackson	59,612	58,103	-2.5
Morrison Community Hospital	Whiteside	60,653	58,961	-2.8
Hoopeston Regional Health Center	Vermilion	83,919	80,067	-4.6
Valley West Community Hospital	DeKalb	88,969	107,333	20.6
Mendota Community Hospital	LaSalle	111,509	112,498	0.9
Hopedale Medical Complex	Tazewell	128,485	132,466	3.1
St. Joseph's Hospital	Madison	258,941	268,457	3.7
Mercy Harvard Hospital	McHenry	260,077	320,961	23.4

SOURCE: U.S. CENSUS, EASI ANALYTICS INC., 2009

Appendix D: Economic Impact Methodology

The economic impact analysis presented in this report was completed using the IMPLAN input/output program developed by the Minnesota IMPLAN Group. The program is unique in that the I/O coefficients are based on county specific patterns and include both industry specific direct and indirect impacts. Input-Output is a generally accepted tool used by economists and planners to estimate the movement of money within a specified region. These estimations are based on the availability of products and services within a region that are known to serve as inputs to an end user. Any increase in business activity usually requires the purchase of goods and services from other business sectors, as well as the employment of workers by the affected businesses. Some of these necessities may be purchased locally while others can only be obtained from sources outside of the study area. The money remaining within the local economy continues to stimulate new economic activity as it moves up the supply chain until the source of the product or service is outside of the study area.

There are three types of multipliers based on the type of economic impact analysis. The direct multiplier is based on the industry's or company's initial economic impact on the community. For example, if a manufacturing plant has revenue of \$5 million, then this figure becomes the direct economic impact on the community.

The indirect multiplier is based on industry-to-industry transactions only. For example, a hospital purchases local laundry services, food, landscaping or floral arrangements. This type of multiplier does not include the effect of local employee spending on retail and service sectors in the community such as housing, grocery store or video store purchases.

The induced multiplier includes both the industry-to-industry transactions and household purchases. The total economic impact is defined as the direct plus indirect plus induced economic effects.

The definitions of the principal economic variables that are used in this report are:

- » *Employment* refers to persons who enter an agreement, which may be formal or informal, with an enterprise to work for the enterprise in return for remuneration in cash or in kind. This typically excludes those retained through temporary employment agencies or independent contractors. The employment figures presented in this analysis include both full- and part-time. No attempt was made to redefine part-time employment as full-time equivalent employees.
- » *Output* is the change in the value of goods and services produced in the study area as a result of a change in economic activity. Production equals revenue in the health care sectors.
- » *Value-added* measures the study area's output in a manner similar to "Gross Domestic Product". It represents the difference between the value of goods and services purchased as production inputs and the value of goods and services produced.
- » *Employee compensation* is a component of the value-added variable. It includes changes in salaries, wages, benefits, and proprietor's income. Employee compensation is assumed to be paid at the place of work but may be spent either inside or outside the study area being analyzed.

Appendix D: Economic Impact Methodology (Continued)

This analysis uses data on employment and revenue for the 2009 fiscal year supplied by the participating critical access hospitals, unless otherwise specified.

The IMPLAN program is based on an industry sectoring scheme that groups business activities

according to their NAICS (North American Industry Classification System) code. Following are the business activities included in the IMPLAN “Private Hospitals” sector:

IMPLAN INDUSTRY GROUP 397: PRIVATE HOSPITALS	
DESCRIPTION	2007 NAICS CODE
Hospitals	622
Children’s hospitals, general	622110
General medical and surgical hospitals	622110
Hospitals, general medical and surgical	622110
Hospitals, general pediatric	622110
Osteopathic hospitals	622110
Alcoholism rehabilitation hospitals	622210
Children’s hospitals, psychiatric or substance abuse	622210
Detoxification hospitals	622210
Drug addiction rehabilitation hospitals	622210
Hospitals for alcoholics	622210
Hospitals, addiction	622210
Hospitals, mental (except mental retardation)	622210
Hospitals, psychiatric (except convalescent)	622210
Hospitals, psychiatric pediatric	622210
Hospitals, substance abuse	622210
Mental (except mental retardation) hospitals	622210
Mental health hospitals	622210
Psychiatric hospitals (except convalescent)	622210
Rehabilitation hospitals, alcoholism and drug addiction	622210
Children’s hospitals, psychiatric or substance abuse	622210
Cancer hospitals	622310
Children’s hospitals, specialty (except psychiatric, substance abuse)	622310
Chronic disease hospitals	622310
Extended care hospitals (except mental, substance abuse)	622310
Eye, ear, nose, and throat hospitals	622310
Hospitals, specialty (except psychiatric, substance abuse)	622310
Leprosy hospitals	622310
Maternity hospitals	622310

IMPLAN INDUSTRY GROUP 397: PRIVATE HOSPITALS

DESCRIPTION	2007 NAICS CODE
Neurological hospitals	622310
Obstetrical hospital	622310
Orthopedic hospitals	622310
Physical rehabilitation hospitals	622310
Rehabilitation hospitals (except alcoholism, drug addiction)	622310
Specialty (except Psychiatric and Substance Abuse) Hospitals	622310
Tuberculosis and other respiratory illness hospitals	622310

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